

CLAIMS

1. A panel carrying device which carries a panel,
comprising:

5 a panel holding device which holds the panel;
a second link mechanism connected to the panel
holding device;

a first link mechanism pivotally fitted to the
second link mechanism;

10 a slide mechanism which moves the first link
mechanism in a panel carrying direction; and

a swing mechanism which swings the second link
mechanism.

15 2. The panel carrying device according to claim 1,
wherein on opposite sides of the panel holding device, a
pair of first link mechanisms, second link mechanisms,
slide mechanisms and swing mechanisms are arranged
symmetrically with respect to each other.

20 3. The panel carrying device according to claim 1,
wherein the second link mechanism includes an output member
connected to the panel holding device, an intermediate
member constituting an opposite side of the output member
25 and two arms connecting the output member to the
intermediate member, which constitute a parallel link.

4. The panel carrying device according to claim 3,
wherein the first link mechanism includes two arms
connecting the intermediate member to the slide mechanism.

5 5. The panel carrying device according to claim 1,
wherein the slide mechanism comprises: a feed slide into
which the first link mechanism is pivotally fitted; and a
translatory actuator which drives the feed slide in the
carrying direction of the panel.

10 6. The panel carrying device according to claim 5,
wherein the slide mechanism moves the feed slide in the
carrying direction of the panel, while two arms of the
first link mechanism are kept in parallel with each other.

15 7. The panel carrying device according to claim 5,
wherein the slide mechanism individually drives two arms of
the first link mechanism to move the feed slide in the
carrying direction of the panel, and tilts the panel
20 holding device.

25 8. The panel carrying device according to claim 1,
wherein the swing mechanism comprises: a swinging link
mechanism pivotally fitted to the first link mechanism and
the second link mechanism; and a translatory actuator which
operates the swinging link mechanism.

9. The panel carrying device according to claim 8, wherein the translatory actuator of the swing mechanism drives a swing slide pivotally fitted to the swinging link mechanism in the carrying direction of the panel.

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10. The panel carrying device according to claim 5, wherein the translatory actuator of the slide mechanism and a translatory actuator of the swing mechanism are arranged.

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11. The panel carrying device according to claim 5, wherein the translatory actuator of the slide mechanism and a translatory actuator of the swing mechanism are a ball screw and a ball nut, timing belts, hydraulic cylinders, a rack and a pinion, or linear motors.

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12. The panel carrying device according to claim 8, wherein a translatory actuator of the slide mechanism and the translatory actuator of the swing mechanism are arranged.

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13. The panel carrying device according to claim 8, wherein a translatory actuator of the slide mechanism and the translatory actuator of the swing mechanism are a ball screw and a ball nut, timing belts, hydraulic cylinders, a rack and a pinion, or linear motors.

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14. The panel carrying device according to claim 1, wherein the panel holding device includes a cross bar connected to the second link mechanism, and a work holding tool attached to the cross bar.